

4. The data model of claim 3, wherein at least one of said plurality of software entities is optionally related to at least one of said plurality of hardware entities in a many-to-one relationship.

5. The data model of claim 3, wherein at least one of said plurality of configuration entities is optionally related to at least one of said plurality of DNS entities in a many-to-one relationship.

6. The data model of claim 3, wherein at least one of said plurality of DNS entities is optionally related to at least one of said plurality of network entities in a many-to-one relationship.

7. The data model of claim 1, wherein said plurality of software entities comprises:

a plurality of units entities;

10 a plurality of unit monitor types entities;

a plurality of unit conflicts entities;

a plurality of application role units entities;

a plurality of platforms entities;

a plurality of unit packages entities;

15 a plurality of account role units entities;

a plurality of device pool role units entities;

a plurality of device pool roles entities;

a plurality of packages entities;

a plurality of account packages entities;

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a plurality of account roles entities;
a plurality of device roles entities;
a plurality of dependent roles entities;
a plurality of included packages entities;
5 a plurality of application packages entities;
a plurality of device pool packages entities; and
a plurality of application roles entities.

8. The data model of Claim 7, wherein said units entities represent
software units that form part of a software package, and wherein said units entities
10 are related to:

said unit monitor types entities by a one-to-many relationship;
said unit conflicts entities by at least one-to-many relationship;
said application role units entities by a one-to-many relationship;
said unit packages entities by a one-to-many relationship;
15 said account role units entities by a one-to-many relationship;
said device pool role units entities by a one-to-many relationship; and
said plurality of network entities by a many-to-one relationship.

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9. The data model of Claim 7, wherein said unit monitor types entities represent the type of monitoring associated with individual units, and wherein said unit monitor types entities relate to said units entities by a many-to-one relationship.

5 10. The data model of Claim 7, wherein said unit conflicts entities identify conflicts between units represented by said units entities, and wherein said unit conflicts entities are related to said units entities by at least one many-to-one relationships.

10 11. The data model of Claim 7, wherein said application role units relate said units entities to said software application roles entities by way of a many-to-one relationship with said units entities and a many-to-one relationship with said application roles entities.

15 12. The data model of Claim 7, wherein said platforms entities represent the computer platform upon which software units, represented by said units entities, are to run, and wherein said platforms entities are related to:

said units entities by an optional one-to-many relationship;

said application roles entities by an optional one-to-many relationship;

said account roles entities by an optional one-to-many relationship;

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said device pool roles entities by a one-to-many relationship; and
said packages entities by a one-to-many relationship.

13. The data model of Claim 7, wherein said unit packages entities relate
said units entities to said packages entities by way of a many-to-one relationship
5 with said units entities and a many-to-one relationship with said packages entities.

14. The data model of Claim 7, wherein said account role units entities
relate said units entities to said account roles entities by way of a many-to-one
relationship with said units entities and a many-to-one relationship with said
account roles entities.

10 15. The data model of Claim 7, wherein said device pool role units entities
relate said units entities to said device pool roles entities by way of a many-to-one
relationship with said units entities and a many-to-one relationship with said device
pool roles entities.

16. The data model of Claim 7, wherein said device pool roles entities
15 represent software roles of a device pool, and wherein said device pool roles are
related to:

said platforms entities by a many-to-one relationship;

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said device pool role units entities by a one-to-many relationship;
said device roles entities by a one-to-many relationship; and
said device pool packages entities by a one-to-many relationship.

17. The data model of Claim 7, wherein said packages entities represent
5 software packages, and wherein said packages entities are related to:

said unit packages entities by a one-to-many relationship;
said platforms entities by a many-to-one relationship;
said plurality of network entities by a many-to-one relationship;
said included packages entities by at least one one-to-many relationship;
10 said application packages entities by a one-to-many relationship;
said device pool packages entities by a one-to-many relationship; and
said account packages entities by a one-to-many relationship.

18. The data model of Claim 7, wherein said account packages entities
relates said packages entities to said account roles entities by way of a many-to-one
15 relationship with said packages entities and a many-to-one relationship with said
account roles entities.

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21. The data model of Claim 7, wherein said dependent roles entities represent software roles dependent upon application software roles, wherein said dependent roles entities relate to said application roles entities by at least one many-to-one relationship.

22. The data model of Claim 7, wherein said included packages entities represent software packages that are included in a specific software installation, and wherein said included packages entities are related to said packages entities by at least one many-to-one relationship.

5 23. The data model of Claim 7, wherein said application packages relate said packages entities to said application roles entities by way of a many-to-one relationship with said package entities and a many-to-one relationship with said application roles entities.

10 24. The data model of Claim 7, wherein said device pool packages entities relate said packages entities to said device pool roles entities by way of a many-to-one relationship with said package entities and a many-to-one relationship with said device pool roles entities.

15 25. The data model of Claim 7, wherein said application roles entities represent software application roles, and said application roles entities relate to:
said dependent roles entities by at least one one-to-many relationship;
said application role units entities by a one-to-many relationship;
said plurality of configuration entities by a one-to-many relationship;
said plurality of network entities by a one-to-many relationship; and

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said plurality of configuration entities by at least one many-to-one relationship.

26. The data model of Claim 1, wherein said plurality of configuration entities further comprises:

- 5 a plurality of conduits entities;
- a plurality of device role IP host entities;
- a plurality of interface IP type entities;
- a plurality of virtual IPs entities;
- a plurality of services entities;
- 10 a plurality of role configurations entities;
- a plurality of device role configuration entities;
- a plurality of status entities;
- a plurality of component type entities; and
- a plurality of device role configuration values entities.

15 27. The data model of Claim 26, wherein said plurality of configuration entities further comprises a plurality of manufacturing model entities.

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28. The data model of Claim 26, wherein said plurality of configuration entities further comprises a plurality of configuration entities further comprises a plurality of component objects entities.

29. The data model of Claim 26, further comprising a plurality of device
5 roles history entities.

30. The data model of Claim 26, wherein said conduits entities represent communications portholes across a firewall via which two devices may communicate across the firewall, wherein said conduits entities relate to said plurality of hardware entities by a many-to-one relationship.

10 31. The data model of Claim 26, wherein said device role IP host entities relates an IP host address to a device role, and relates to:

said interface IP type entities by a many-to-one relationship;

said plurality of network entities by a many-to-one relationship; and

said plurality of software entities by a many-to-one relationship.

15 32. The data model of Claim 26, wherein said interface IP type entities represent allowed types of IP addresses within the network, and wherein said

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interface IP type entities relate to said device role IP host entities in a one-to-many relationship.

33. The data model of Claim 26, wherein said virtual IPs entities represent virtual IP addresses that are used by a router to route traffic for a single IP address to multiple computers, and wherein said virtual IPs entities relates to:

said plurality of monitoring entities by a one-to-many relationship;
said plurality of hardware entities by a many-to-one relationship; and
said plurality of network entities by a many-to-one relationship.

34. The data model of Claim 26, wherein said services entities represent services to be performed by a series of applications accessible by a network server, and wherein said services entities relate to said software entities by an optional one-to-many relationship.

35. The data model of Claim 26, wherein said role configurations entities represent configurations related to software roles, and wherein said role configurations relate to:

said plurality of software entities by a many-to-one relationship; and
said component type entities by a many-to-one relationship.

36. The data model of Claim 26, wherein said device role configuration entities represent configurations of software roles for specific devices, and wherein said device role configuration entities relate to:

5 said device role configuration values entities by a one-to-many
relationship; and
 said plurality of software entities by a many-to-one relationship.

37. The data model of Claim 26, wherein said status entities represent status conditions of various hardware and software objects, and wherein said status entities relate to:

10 said plurality of software entities by at least one one-to-many relationship;
and
 said plurality of hardware entities by a one-to-many relationship.

38. The data model of Claim 26, wherein said component type entities represent types of components used with the data model, and wherein said
15 component type entities relate to said role configurations entities with a
one-to-many relationship.

39. The data model of Claim 26, wherein said device role configuration values entities represent configuration values associated with software roles of a

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specific device, wherein said device role configuration values entities relate to device role configuration entities by a many-to-one relationship.

40. The data model of Claim 1, wherein said plurality of monitoring components further comprises:

- 5 a plurality of device request classes entities;
- a plurality of request class entities;
- a plurality of request class variables entities;
- a plurality of manager applications entities;
- a plurality of monitor ACLs entities;
- 10 a plurality of device application configuration entities;
- a plurality of device authorizations entities;
- a plurality of device ACLs entities;
- a plurality of SNMP variables entities;
- a plurality of ACL entries entities; and
- 15 a plurality of VIP groups entities.

41. The data model of Claim 40, further comprising a plurality of autonomous system map entities.

42. The data model of Claim 40 wherein said device request classes entities relate said request class entities to hardware devices by way of a many-to-one relationship with said request class entities and a many-to-one relationship with said plurality of hardware entities.

43. The data model of Claim 40 wherein said request class entities represent specific classes of requests that may be made, and wherein said request class entities relate to:

said device request classes entities by a one-to-many relationship; and

said request class variables entities by an optional one-to-many relationship.

44. The data model of Claim 40 wherein said request class variables may be used to relate request classes associated with said request class entities with simple network management protocol (SNMP) variables associated with said SNMP variables entities by way of an optional many-to-one relationship with said request class entities, and optional many-to-one relationship with said SNMP variables entities.

45. The data model of Claim 40 wherein said manager applications entities relate the monitor access control lists (ACLs) represented by the monitor ACLs

5 46. The data model of Claim 40 wherein said monitor ACLs entities
represent the monitoring of the ACLs for various devices on the network, wherein
said monitor ACLs entities relate to:

said device ACLs entities by a one-to-many relationship; and .

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said plurality of hardware entities by a many-to-one relationship.

48 The data model of Claim 40 wherein said device authorizations entities
represent the authorization levels of particular devices, and wherein said device
authorizations entities relate to:

said device ACLs entities by a one-to-many relationship; and

said plurality of hardware entities by a many-to-one relationship.

49. The data model of Claim 40 wherein said device ACLs entities
represent device access control lists (ACLs) for specific devices on a network,
5 wherein said device ACLs entities relate to:

said monitor ACLs entities by a many-to-one relationship; and

said device authorizations entities by a many-to-one relationship.

50. The data model of Claim 40 wherein said SNMP variables entities
represent specific variables associated with the simple network management
10 protocol (SNMP) used by devices on the network, wherein said SNMP variable
entities relate to said request class variables entities by an optional one-to-many
relationship.

51. The data model of Claim 40 wherein said ACL entries entities
represent entries within an ACL, wherein said ACL entries entities relate to said
15 monitor ACLs by a many-to-one relationship.

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- a plurality of memory components entities;
- a plurality of storage components entities;
- a plurality of bus components entities;
- a plurality of interface components entities;
- a plurality of interface cards entities;
- a plurality of devices entities;
- a plurality of interface type entities;
- a plurality of device console entities;
- a plurality of CPU components entities;
- a plurality of SUB interfaces entities;
- a plurality of circuits entities; and
- a plurality of interface IPs entities.

54. The data model of Claim 53, wherein said memory components entities represent memory components, and wherein said memory components entities relate to said devices entities by a many-to-one relationship.

55. The data model of Claim 53, wherein said storage components entities
5 represent storage components, and wherein said memory components entities relate to said devices entities by a many-to-one relationship.

56. The data model of Claim 53, wherein said bus components entities represent storage components, and wherein said bus components entities relate to said devices entities by a many-to-one relationship.

10 57. The data model of Claim 53, wherein said interface components entities represent interface components, and wherein said interface components entities relate to:

said interface cards entities by a many-to-one relationship;

said interface type entities by a many-to-one relationship; and

15 said SUB interfaces entities by a one-to-many relationship.

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5 62. The data model of Claim 53, wherein said CPU components entities
represent hardware CPU components, and wherein said CPU components entities
relate to said devices entities by a many-to-one relationship.

said interface components entities by a many-to-one relationship; and

said interface IPs entities by a one-to-many relationship.

15 64. The data model of Claim 53, wherein said circuits entities represent
specific hardware circuits, and wherein said circuits entities relates to said SUB
interfaces entities by an optional one-to-many relationship.

68. The data model of Claim 66, wherein said DNS hosts entities represent DNS host devices, and wherein said DNS hosts entities relate to:

said DNS host types entities by a many-to-one relationship;

said DNS domains entities by a many-to-one relationship; and

5 said plurality of configuration entities by an optional one-to-many relationship.

69. The data model of Claim 66, wherein said DNS host types entities represent allowed DNS host types, and wherein said DNS host types entities relate to said DNS hosts entities in a one-to-many relationship.

10 70. The data model of Claim 66, wherein said DNS ACLs entities represent ACLs associated with specific DNS names, and wherein said DNS ACLs entities relate to:

said DNS ACL entries entities by a one-to-many relationship;

said DNS allow transfers entities by a one-to-many relationship; and

15 said DNS allow queries entities by a one-to-many relationship.

71. The data model of Claim 66, wherein said DNS ACL entries entities relate to said DNS ACLs entities by a many-to-one relationship.

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72. The data model of Claim 66, wherein said DNS allow transfers entities relate to:

said DNS ACLs entities by a many-to-one relationship; and

said DNS domains entities by a many-to-one relationship.

5 73. The data model of Claim 66, wherein said DNS domain types entities represent the allowed types of DNS names for the network, and wherein said DNS domain types entities relate to said DNS domains entities by a one-to-many relationship.

10 74. The data model of Claim 66, wherein said DNS domains entities represent the various DNS domains of the network, and wherein said DNS domains entities relate to:

said DNS hosts entities by a one-to-many relationship;

said DNS allow transfers entities by a one-to-many relationship;

said DNS allow queries entities by a one-to-many relationship;

15 said DNS domain types entities by a many-to-one relationship;

said DNS domain masters entities by a many-to-one relationship; and

said plurality of network entities by an optional many-to-one relationship;.

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75. The data model of Claim 66, wherein said DNS allow queries entities represent specific DNS queries allowed on the network, and wherein said DNS allow queries entities relate to:

said DNS domains entities by a many-to-one relationship; and

5 said DNS ACLs entities by a many-to-one relationship.

76. The data model of Claim 66, wherein said DNS domain masters entities relate DNS domains represented by said DNS domains entities and DNS master IPs represented by DNS master IPs entities by way of a one-to-many relationship with said DNS domains entities and a many-to-one relationship with
10 said DNS master IPs entities.

77. The data model of Claim 66, wherein said DNS master IPs entities relate to DNS master IP addresses of the network, and relate to said DNS domain masters entities by a one-to-many relationship.

78. The data model of Claim 1, wherein said plurality of network entities
15 further comprises:

a plurality of accounts entities;

a plurality of account configuration entities;

a plurality of account configuration values entities;

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83. The data model of Claim 78 wherein said customer tiers entities
ent tiers of services accessible to customers on a network, and wherein said
ner tiers entities relate to:

said VLAN compartments entities by a one-to-many relationship;

said plurality of software entities by an optional one-to-many relationship;

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87. The data model of Claim 78 wherein said data centers entities relate to said customer tiers entities by a one-to-many relationship and to said data center configuration entities by a one-to-many relationship.

88. The data model of Claim 78 wherein said device pool VLAN platforms entities relate to said VLAN IP pools entities by a many-to-one relationship.

89. The data model of Claim 78 wherein said VLAN IP pools entities relate to said VLAN compartments entities and said VLAN SUB Type entities by many-to-one relationships, and to said device pool VLAN platforms entities and IP addresses entities by one-to-many relationships.

5 90. The data model of Claim 78 wherein said data centered tiers entities relate to said data centers entities and to said plurality of software entities by many-to-one relationships.

91. The data model of Claim 78 wherein said VLAN pool type entities represent information regarding the allowed types of VLAN pools.

10 92. The data model of Claim 78 wherein said VLAN sub type entities relate to said VLAN IP Pools by a one-to-many relationship.

93. The data model of Claim 78 wherein said IP addresses entities relate to said VLAN IP pools by a many-to-one relationship, and to said plurality of configuration entities by at least one one-to-many relationship.

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94. The data model of Claim 78 wherein said VLAN CIDR reserve entities indicate the CIDR VLAN addresses that are reserved for network operation and the addresses that are available for assignment.

95. The data model of Claim 1, wherein said queues entities further
5 comprises:

- a plurality of agent queues entities;
- a plurality of agent queue commands entities;
- a plurality of agent command output entities;
- a plurality of agent commands entities; and
- 10 a plurality of agent command text entities.

96. The data model of Claim 95, further comprising a plurality of agent queue Mutex entities.

97. The data model of Claim 95, further comprising a plurality of agent command Mutex entities.

15 98. The data model of Claim 25 wherein said agent queues entities is used to indicate to agents a list of tasks to be performed and may optionally relate to

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99. The data model of Claim 25 wherein said agent queue commands
entities relate to said agent queues entities and said agent commands in many-to-
one relationships and to said agent command output entities in a one-to-many
relationship.

100. The data model of Claim 25 wherein said agent command text entities relate to said agent commands entities by a many-to-one relationship.